

December 10, 2007

Chip Humphrey  
Eric Blischke  
U.S. Environmental Protection Agency, Region 10  
811 SW 6<sup>th</sup> Avenue, 3rd Floor  
Portland, OR 97204

**Re: Lower Willamette River, Portland Harbor Superfund Site  
USEPA Docket No: CERCLA-10-2001-0240  
Monthly Progress Report for November 2007**

Dear Mssrs. Humphrey and Blischke:

This monthly status report provides information required by the Portland Harbor Superfund Site Administrative Settlement and Administrative Order on Consent (ASOC).

## **1. ACTIONS TAKEN IN NOVEMBER 2007**

- The Round 3B biota sampling task resumed in November with the collection of clams from November 12<sup>th</sup> through November 16<sup>th</sup> at ten target locations. Estimates of the biomass collected at each location were discussed during the sampling with EPA and EPA concurred by e-mail that the tissue sampling effort was adequately completed. Collocated surface sediments were successfully collected at 8 of the 10 clam stations during the week of November 19, 2007 using a van veen grab sampler. Sediment sampling will be re-attempted at the remaining two stations the week of December 3, 2007 using a power grab sampler.
- The Round 3 lamprey ammocoete toxicity testing program, initiated with lamprey collection in late August, continued throughout November with laboratory toxicity testing per the procedures described in the FSP and QAPP addenda (and as modified in consultation with EPA). The lab initiated toxicity testing with naphthalene in late October and completed the testing in November. An acceptable flow-through test was performed with naphthalene and this test was carried out to completion, however, an LC50 value could not be calculated from this test because only 50% died in the highest concentration. The lab will continue the testing program following EPA direction on how to proceed (i.e., re-run the naphthalene test or proceed with the pentachlorophenol test).
- Sediment traps were installed at all stormwater sampling locations, with the exception of Sulzer WR-4, from November 12<sup>th</sup> to November 21<sup>st</sup> depending on site access. A first stormwater collection event was triggered November 14<sup>th</sup> at 7 of 9 sampling locations (UPRR had not been installed due to a pending site access agreement and WR-4 was not in place because a sampling location had not been determined). For this event, composite water samples were successfully collected on November 16th from 4 outfalls. A second stormwater collection event was triggered on November 26th at 7 of 8 remaining sampling locations (WR-4 was still not installed; no further sample events were required at OF-49). Composite water samples were successfully collected on November 27th at 6 outfalls. A third stormwater sampling event was triggered on November 28th at 5 of 6 remaining sampling locations (WR-4 was still not installed, and no

further sample events were required at OF-49, OF-22B, and WR-96). Composite water samples were successfully collected at 2 outfalls. Of the 9 original sampling locations, 4 locations have now fulfilled FSP sampling requirements (OF-49, OF-22B, WR-96, and WR-218).

- Fourth quarter sampling of in-river sediment traps commenced on November 12, 2007 and ended November 14, 2007. All 16 in-river sediment traps were successfully recovered and sampled. Each was inspected, photographed, and measured in accordance with the applicable FSP. All of the required QA/QC samples were collected. Because this field effort fulfills the requirement of one year's total deployment duration, sediment traps were not re-deployed. Three of the 16 sediment traps (ST003, ST006, and ST009) contained insufficient material to conduct analyses for the full suite of analytes. For these three samples, one jar was sent for congener analysis, and the remaining containers were sent to Columbia Analytical Systems to determine solids content for subsequent prioritization for analysis. Sediment from the remaining 13 sediment traps was processed aboard the sampling vessel and returned to the Integral field facility for packing and shipping to the analytical laboratories.
- The Round 3B sediments sampling task was initiated on November 14, 2007 and continued through the end of the month. Through November 30th, all upriver sediment samples and all co-located sediment/bioassay samples had been collected with the exception of those between RM 11.2 and 12.2. The current schedule is to complete any remaining surface sediment sampling during the first week of December and began subsurface sampling (vibracoring) on December 10, 2007. It is anticipated that core sampling will continue into the first half of January. No sampling is planned during the holiday period in late December.
- Integral is assisting the LWG in updating the City's GIS outfall layer for the RI report. The second phase of the field outfall verification task took place during two rain event(s) the week of November 12<sup>th</sup>. This outfall verification program will continue in December. A final GIS layer with updated outfall information will be rolled out in the first half of 2008.

#### **Deliverables Approved by EPA**

- November 6, 2007: Round 3A Stormwater FSP Addendum
- November 5, 2007: Round 3B Comprehensive Sediment and Bioassay Testing Field Sampling Plan (conditional approval)

#### **Deliverables Submitted to EPA**

- October 31, 2007: Draft Round 3B QAPP Addendum 9 for Biota Sampling<sup>1</sup>
- November 2, 2007: Round 3A Stormwater FSP Addendum
- November 5, 2007: Round 3B Comprehensive Sediment and Bioassay Testing Field Sampling Plan

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<sup>1</sup> This deliverable was mistakenly not listed in the October, 2007 progress report to EPA.

- November 16, 2007: Round 3A Sediment Data Report Addendum: Radioisotope Data
- November 21, 2007: Compilation of Information for Sources Between RM 11 and 11.6 East Bank of Portland Harbor

## 2. PROBLEMS ENCOUNTERED, ANTICIPATED DELAYS, AND SOLUTIONS

The need to modify some Round 3B target sampling locations was identified during field program implementation and modifications to the approved FSP were discussed with EPA and confirmed in email communications. These changes will be documented in the Field Sampling Report.

## 3. RESULTS OF SAMPLING, TESTS, AND OTHER DATA RECEIVED

The following chemical analysis results were received and validated in November 2007:

| <b>Round 3 Lamprey Ammocoete Toxicity Testing Phase 2</b>  |                      |                                |                                      |                           |                              |
|--|----------------------|--------------------------------|--------------------------------------|---------------------------|------------------------------|
| Lab  | Analyte Group        | Total #<br>Samples<br>for Task | Data<br>Received<br>November<br>2007 | %<br>Analysis<br>Complete | %<br>Validation<br>Completed |
| CAS  | Conventionals        | 4                              | 1                                    | 50                        | 25                           |
| CAS  | Copper               | 32                             | 13                                   | 100                       | 100                          |
| CAS  | Copper,<br>dissolved | 32                             | 13                                   | 100                       | 100                          |
| CAS  | Naphthalene          | 63                             | 31                                   | 49                        | 0                            |
| CAS  | Lindane              | 32                             | 0                                    | 0                         | 0                            |
| CAS  | Aniline              | 31                             | 31                                   | 100                       | 0                            |
| <b>Round 3 Sediment Trap (Deployed in River) Event III</b> |                      |                                |                                      |                           |                              |
| Lab  | Analyte Group        | Total #<br>Samples<br>for Task | Data<br>Received<br>November<br>2007 | %<br>Analysis<br>Complete | %<br>Validation<br>Completed |
| CAS  | Conventionals        | 7                              | 0                                    | 86                        | 0                            |
| CAS  | Metals               | 7                              | 0                                    | 86                        | 0                            |
| CAS  | Butyltins            | 7                              | 0                                    | 86                        | 0                            |
| CAS  | TPH                  | 7                              | 0                                    | 86                        | 0                            |
| CAS  | VOC                  | 7                              | 0                                    | 100                       | 0                            |
| CAS  | Dioxins              | 7                              | 0                                    | 86                        | 0                            |
| CAS  | Pesticides           | 7                              | 6                                    | 86                        | 0                            |
| CAS  | PCBs                 | 7                              | 0                                    | 86                        | 0                            |
| CAS  | SVOC                 | 6                              | 0                                    | 100                       | 0                            |
| CAS  | Herbicides           | 7                              | 0                                    | 86                        | 0                            |
| CAS  | PAH-SIM              | 7                              | 0                                    | 86                        | 0                            |
| CAS  | Phthalate esters     | 1                              | 0                                    | 0                         | 0                            |
| Vista  | PCB congeners        | 12                             | 0                                    | 0                         | 0                            |

**Round 3 Sediment Trap (Deployed in River) Event IV**

| Lab   | Analyte Group | Total #<br>Samples<br>for Task | Data<br>Received<br>November<br>2007 | %<br>Analysis<br>Complete | %<br>Validation<br>Completed |
|-------|---------------|--------------------------------|--------------------------------------|---------------------------|------------------------------|
| CAS   | Conventionals | 14                             | 0                                    | 0                         | 0                            |
| CAS   | Metals        | 14                             | 0                                    | 0                         | 0                            |
| CAS   | Butyltins     | 14                             | 0                                    | 0                         | 0                            |
| CAS   | TPH           | 14                             | 0                                    | 0                         | 0                            |
| CAS   | VOC           | 14                             | 0                                    | 0                         | 0                            |
| CAS   | Dioxins       | 14                             | 0                                    | 0                         | 0                            |
| CAS   | Pesticides    | 14                             | 0                                    | 0                         | 0                            |
| CAS   | SVOC          | 14                             | 0                                    | 0                         | 0                            |
| CAS   | Herbicides    | 14                             | 0                                    | 0                         | 0                            |
| CAS   | PAH-SIM       | 14                             | 0                                    | 0                         | 0                            |
| Vista | PCB congeners | 17                             | 0                                    | 0                         | 0                            |

**Round 3A Stormwater Outfalls - Sediment Traps**

| Lab   | Analyte Group    | Total #<br>Samples<br>for Task | Data<br>Received<br>November<br>2007 | %<br>Analysis<br>Complete | %<br>Validation<br>Completed |
|-------|------------------|--------------------------------|--------------------------------------|---------------------------|------------------------------|
| CAS   | Conventionals    | 27                             | 0                                    | 0                         | 0                            |
| CAS   | Metals           | 8                              | 0                                    | 0                         | 0                            |
| CAS   | Pesticides       | 17                             | 0                                    | 0                         | 0                            |
| CAS   | Herbicides       | 8                              | 0                                    | 0                         | 0                            |
| CAS   | PAH-SIM          | 12                             | 0                                    | 0                         | 0                            |
| CAS   | Phthalate esters | 12                             | 0                                    | 0                         | 0                            |
| Vista | PCB congeners    | 24                             | 0                                    | 0                         | 0                            |

**Round 3B Stormwater Outfalls (November 2007 Storm Event I)**

| Lab | Analyte Group    | Total #<br>Samples<br>for Task | Data<br>Received<br>November<br>2007 | %<br>Analysis<br>Complete | %<br>Validation<br>Completed |
|-----|------------------|--------------------------------|--------------------------------------|---------------------------|------------------------------|
| CAS | Conventionals    | 4                              | 0                                    | 0                         | 0                            |
| CAS | Metals           | 4                              | 0                                    | 0                         | 0                            |
| CAS | Metals           |                                |                                      |                           |                              |
| CAS | dissolved        | 3                              | 0                                    | 0                         | 0                            |
| CAS | Pesticides       | 1                              | 0                                    | 0                         | 0                            |
| CAS | Herbicides       | 4                              | 0                                    | 0                         | 0                            |
| CAS | PAH-SIM          | 4                              | 0                                    | 0                         | 0                            |
| CAS | Phthalate esters | 2                              | 0                                    | 0                         | 0                            |

**Round 3B Stormwater Outfalls (November 2007 Storm Event II)**

| Lab | Analyte Group | Total #<br>Samples<br>for Task | Data<br>Received<br>November<br>2007 | %<br>Analysis<br>Complete | %<br>Validation<br>Completed |
|-----|---------------|--------------------------------|--------------------------------------|---------------------------|------------------------------|
| CAS | Conventionals | 7                              | 0                                    | 0                         | 0                            |
| CAS | Metals        | 7                              | 0                                    | 0                         | 0                            |

|     |                  |   |   |   |   |
|-----|------------------|---|---|---|---|
|     | Metals           |   |   |   |   |
| CAS | dissolved        | 6 | 0 | 0 | 0 |
| CAS | Pesticides       | 1 | 0 | 0 | 0 |
| CAS | Herbicides       | 3 | 0 | 0 | 0 |
| CAS | PAH-SIM          | 5 | 0 | 0 | 0 |
| CAS | Phthalate esters | 1 | 0 | 0 | 0 |

**Round 3A Sturgeon**

| Lab  | Analyte Group | Total #<br>Samples<br>for Task | Data<br>Received<br>November<br>2007 | %<br>Analysis<br>Complete | %<br>Validation<br>Completed |
|------|---------------|--------------------------------|--------------------------------------|---------------------------|------------------------------|
| Axys | Dioxins       | 17                             | 0                                    | 100                       | 100                          |
| Axys | Pesticides    | 18                             | 0                                    | 100                       | 100                          |
| Axys | PCB congeners | 18                             | 0                                    | 100                       | 100                          |
| Axys | Lipids        | 17                             | 0                                    | 100                       | 100                          |
| CAS  | Metals        | 20                             | 0                                    | 100                       | 100                          |
| CAS  | Butyltins     | 17                             | 0                                    | 100                       | 100                          |
| CAS  | SVOC          | 17                             | 0                                    | 100                       | 100                          |
| CAS  | PAH-SIM       | 20                             | 0                                    | 100                       | 100                          |
| CAS  | Lipids        | 3                              | 0                                    | 100                       | 100                          |

**Round 3B Biota**

| Lab  | Analyte Group | Expected<br>Total #<br>Samples<br>for Task | Data<br>Received<br>November<br>2007 | %<br>Analysis<br>Complete | %<br>Validation<br>Completed |
|------|---------------|--|--------------------------------------|---------------------------|------------------------------|
| Axys | Dioxins       | 101  | 0                                    | 0                         | 0                            |
| Axys | Pesticides    | 101  | 0                                    | 0                         | 0                            |
| Axys | PCB congeners | 101  | 0                                    | 0                         | 0                            |
| Axys | Lipids        | 101  | 0                                    | 0                         | 0                            |
| CAS  | Metals        | 100  | 0                                    | 0                         | 0                            |
| CAS  | Butyltins     | 99   | 0                                    | 0                         | 0                            |
| CAS  | SVOC          | 99   | 0                                    | 0                         | 0                            |
| CAS  | Alkylated PAH | 13   | 0                                    | 0                         | 0                            |
| CAS  | PAH-SIM       | 86   | 0                                    | 0                         | 0                            |

**Round 3B Biota - Collocated Sediments for Sculpin, Crayfish, and Clams**

| Lab   | Analyte Group | Expected<br>Total #<br>Samples<br>for Task | Data<br>Received<br>November<br>2007 | %<br>Analysis<br>Complete | %<br>Validation<br>Completed |
|-------|---------------|--|--------------------------------------|---------------------------|------------------------------|
| CAS   | Conventionals | 32   | 0                                    | 0                         | 0                            |
| CAS   | Metals        | 32   | 0                                    | 0                         | 0                            |
| CAS   | Butyltins     | 32   | 0                                    | 0                         | 0                            |
| CAS   | Dioxins       | 32   | 0                                    | 0                         | 0                            |
| CAS   | Pesticides    | 32   | 0                                    | 0                         | 0                            |
| CAS   | PCBs          | 32   | 0                                    | 0                         | 0                            |
| CAS   | SVOC          | 32   | 0                                    | 0                         | 0                            |
| CAS   | Alkylated PAH | 32   | 0                                    | 0                         | 0                            |
| Vista | PCB congeners | 32   | 0                                    | 0                         | 0                            |

### Round 3B Surface Sediments

| Lab   | Analyte Group | Expected<br>Total #<br>Samples<br>for Task | Data<br>Received<br>November<br>2007 | %<br>Analysis<br>Complete | %<br>Validation<br>Completed |
|-------|---------------|--|--------------------------------------|---------------------------|------------------------------|
| CAS   | Conventionals | 200  | 0                                    | 0                         | 0                            |
| CAS   | Metals        | 200  | 0                                    | 0                         | 0                            |
| CAS   | TPH           | 200  | 0                                    | 0                         | 0                            |
| CAS   | Dioxins       | 46   | 0                                    | 0                         | 0                            |
| CAS   | Pesticides    | 200  | 0                                    | 0                         | 0                            |
| CAS   | PCBs          | 200  | 0                                    | 0                         | 0                            |
| CAS   | SVOC          | 200  | 0                                    | 0                         | 0                            |
| CAS   | PAH-SIM       | 200  | 0                                    | 0                         | 0                            |
| Vista | PCB congeners | 65   | 0                                    | 0                         | 0                            |

### Willamette Cove Sampling and Analysis

| Lab   | Analyte Group | Total #<br>Samples<br>for Task | Data<br>Received<br>November<br>2007 | %<br>Analysis<br>Complete | %<br>Validation<br>Completed |
|-------|---------------|--------------------------------|--------------------------------------|---------------------------|------------------------------|
| CAS   | Conventionals | 1                              | 0                                    | 0                         | 0                            |
| CAS   | Metals        | 1                              | 0                                    | 0                         | 0                            |
| CAS   | Butyltins     | 1                              | 0                                    | 0                         | 0                            |
| CAS   | TPH           | 1                              | 0                                    | 0                         | 0                            |
| CAS   | VOC           | 1                              | 0                                    | 0                         | 0                            |
| CAS   | Dioxins       | 1                              | 0                                    | 0                         | 0                            |
| CAS   | Pesticides    | 1                              | 0                                    | 0                         | 0                            |
| CAS   | PCBs          | 1                              | 0                                    | 0                         | 0                            |
| CAS   | SVOC          | 1                              | 0                                    | 0                         | 0                            |
| CAS   | Herbicides    | 1                              | 0                                    | 0                         | 0                            |
| CAS   | PAH-SIM       | 1                              | 0                                    | 0                         | 0                            |
| Vista | PCB congeners | 1                              | 0                                    | 0                         | 0                            |

## 4. SCHEDULE FOR THE NEXT FOUR MONTHS

Work described in the ASOC that is potentially planned for December 2007, and January, February, March 2008 includes the following:

- December 2007: Round 3A Stormwater Field Sampling Report
- December 2007: Draft Round 3B QAPP Addendum 10 for Sediment Sampling
- December 2007: Fate & Transport Surface Sediment FSP – Addendum to 3B Sediment FSP
- December 2007: Round 3 Phase 2 Lamprey Toxicity Testing Field Sampling Report
- December 2007: Gunderson TZW Field Sampling Report
- January 2008: 4<sup>th</sup> Quarter Sediment Trap Field Sampling Report
- February 2008: Round 3A Sturgeon Sampling Data Report
- February 2008: Round 3B Biota Field Sampling Report
- March 2008: Stormwater Site Characterization Summary Report

Submittal dates for pending products currently under preparation by LWG and scheduled for submittal in upcoming months are listed in Table 1.

## 5. DOCUMENTS AND ISSUES AWAITING EPA RESPONSE

EPA comments or approvals have not been received on several milestones and documents that have been submitted to EPA as required by the ASOC; these and other documents and milestones are listed in Table 1. The LWG requests document/milestone approvals to verify that the terms of the ASOC are being met and issues are resolved to maintain progress on the RI/FS.

If you have any questions, please give me a call at (360) 705-3534.

Sincerely,



Gene C. Revelas  
RI/FS Coordinator

Copies:     Jim Anderson, ODEQ (email only)  
               Dick Pedersen, ODEQ (email only)  
               Rick Kepler, ODFW (email only)  
               Ted Buerger, USFWS (email only)  
               Rob Neely, NOAA (email only)  
               Ben Shorr, NOAA (email only)  
               Preston Sleeper, DOI (email only)  
               Brian Cunninghame, Confederated Tribes of Warm Springs (email only)  
               Rose Longoria, Confederated Tribes of Yakama Nation (email only)  
               Jeff Baker, Confederated Tribes of Grand Ronde (email only)  
               Tom Downey, Confederated Tribes of Siletz (email only)  
               Audie Huber, Confederated Tribes of Umatilla (email only)  
               Erin Madden, Nez Perce Tribe (email only)  
               Sheila Fleming, Ridolfi (email only)  
               LWG Repository

Table 1. Status of LWG Deliverables - Portland Harbor RI/FS

| <b>Deliverable<sup>1</sup></b>                                 | <b>Submittal Deadline<sup>2</sup></b> | <b>Status/ Comments</b>   | <b>EPA Comments Target Date</b> |
|--|---------------------------------------|---|---------------------------------|
| <b>Round 1</b>   |                                       |   |                                 |
| Conceptual Site Model Update                                   | 9/17/2004                             | Submitted; EPA comments received 1/13/2005  |                                 |
| Revised Conceptual Site Model Update Site Summaries            | 10/10/2005                            | Summaries submitted 10/10/2005 for Gasco, Triangle Park, ExxonMobil, Marcom, Arkema, Gunderson, & Foss Brix | EPA comments not anticipated    |
| Remaining Revised Conceptual Site Model Update Site Summaries  | 2/28/2007                             | Summaries for Rhone-Poulenc and Siltronic submitted on 2/28/2007.   | 4/30/2007                       |
| Conceptual Site Model Update - Remaining Upland Site Summaries | First batch: 3/8/2005                 | First batch submitted on 3/8/2005   | First batch: 5/8/2005           |
|  | Second batch: 3/8/2005                | Second batch submitted on 3/8/2005  | Second batch: 5/8/2005          |
|  | Third batch: 4/26/2005                | Third batch submitted on 4/26/2005  | Third batch: 6/27/2005          |
|  | Fourth batch: 4/26/2005               | Fourth batch submitted on 4/26/2005   | Fourth batch: 6/27/2005         |
|  | Fifth batch: 5/31/2005                | Fifth batch submitted on 5/31/2005  | Fifth batch: 8/1/2005           |
|  | Sixth batch: 5/31/2005                | Sixth batch submitted on 5/31/2005  | Sixth batch: 8/1/2005           |
|  | Seventh batch: 9/1/2005               | Seventh batch submitted on 9/2/2005   | Seventh batch: 10/31/2005       |
|  | Last batch: 2/28/2007                 | Last batch submitted 2/28/2007  | Last batch: 4/30/2007           |



Table 1. Status of LWG Deliverables - Portland Harbor RI/FS

| <b>Deliverable<sup>1</sup></b>   | <b>Submittal Deadline<sup>2</sup></b> | <b>Status/ Comments</b>   | <b>EPA Comments Target Date</b>                          |
|--|---------------------------------------|---|--|
| <i>Compilation of Information for Sources Between RM 11 and 11.6 East Bank of Portland Harbor</i>        | <u>November 2007</u>                  | <u>Submitted to EPA and DEQ 11/21/2007</u>  | -  |
| <b>Round 2 Biota</b>   |                                       |   |  |
| <i>Revised Round 2 QAPP Addendum 6: Sampling of Benthic Invertebrate Tissue</i>                          | 11/23/2005                            | Submitted 11/23/2005; approved with conditions on 12/6/2005; a final QAPP addendum is required  | 12/8/2005  |
| <i>Final Round 2 QAPP Addendum 6: Sampling of Benthic Invertebrate Tissue</i>                            | TBD                                   | On 2/9/2006, the LWG submitted a response to EPA's comments on the 11/23/2005 version of the QAPP addendum. The LWG has not heard back from EPA on that response. The LWG believes that a final QAPP in not required. |  |
| <b>Hydro/Sed Modeling</b>  |                                       |   |  |
| <i>Phase 2 Recalibration Results: Hydrodynamic Sedimentation Modeling for the Lower Willamette River</i> | 12/8/2006                             | Submitted 12/8/2006; EPA comments received 4/3/2007   |  |
| <i>Revised Sedflume Data Use Technical Memorandum</i>  | July 2007                             | Submitted 7/26/2007;  | EPA comments and conditioned approval received 9/20/2007 |
| <b>Groundwater Pathway</b>   |                                       |   |  |
| <i>Draft Round 2 Groundwater Pathway Assessment Sampling and Analysis Plan</i>                           | 4/22/2005                             | Submitted 4/22/2005; EPA comments received 6/3/2005   |  |

Table 1. Status of LWG Deliverables - Portland Harbor RI/FS

| <b>Deliverable<sup>1</sup></b>  | <b>Submittal Deadline<sup>2</sup></b> | <b>Status/ Comments</b>  | <b>EPA Comments Target Date</b> |
|---|---------------------------------------|--|---------------------------------|
| <i>Round 2 Groundwater Pathway Assessment Sampling and Analysis Plan - Response to EPA Comments</i>   | TBD                                   | This response to comments is on hold pending resolution of ongoing TZW framework discussions with EPA related to Round 3 data gap identification.  |                                 |
| <i>Revised Round 2 Groundwater Pathway Assessment Sampling and Analysis Plan (including Appendix A - Site Summaries and Appendix B - Pilot Study Data Report)</i> | TBD                                   | Revision of the Round 2 GWPA SAP is on hold pending resolution of ongoing TZW framework discussions with EPA related to Round 3 data gap identification.   |                                 |
| <i>Round 2 FSP for Sampling of Shoreline Seeps at Human Use Beaches</i>   | 4/29/2005                             | Submitted 4/29/2005; EPA comments received 6/10/2005   |                                 |
| <i>Revised Round 2 FSP for Sampling of Shoreline Seeps at Human Use Beaches</i>   | No longer needed                      | The only seep determined to pose a potentially complete exposure pathway is discharge from Outfall 22B. The existing data from Outfall 22B include the upland COIs and meet the data quality requirements for risk evaluation (Category 1/QA2). Based on the Round 2 Report evaluations, no additional seep data are needed. Therefore, this FSP is no longer needed." | -                               |
| <i>Revised Round 2 Groundwater Pathway Assessment SAP Attachment 2: Transition Zone Water FSP</i>   | 3/27/2006                             | Redline version submitted 3/27/2006; final to be submitted following approval or comments from EPA   | 4/28/2006                       |

Table 1. Status of LWG Deliverables - Portland Harbor RI/FS

| <b>Deliverable<sup>1</sup></b>  | <b>Submittal Deadline<sup>2</sup></b> | <b>Status/ Comments</b>  | <b>EPA Comments Target Date</b> |
|---|---------------------------------------|--|---------------------------------|
| <i>Revised Round 2 Groundwater Pathway Assessment SAP Attachment 3: Supplement to QAPP Addendum 3</i>           | 10/7/2005                             | Submitted 10/7/2005: Conditional approval of proposed changes to the QAPP addendum received from EPA on 9/30/2005.   |                                 |
| <i>Revised Transition-Zone Water FSP Addendum 1 Sampling Plans for ExxonMobil, Siltronic, Gasco, and Arkema</i> | 3/27/2006                             | Submitted 3/27/2006  |                                 |
| <i>Revised Transition-Zone Water FSP Addendum 2</i>   | 3/27/2006                             | Submitted 3/27/2006  |                                 |
| <b>Natural Attenuation</b>  |                                       |  |                                 |
| <i>Step 2 Natural Attenuation Evaluation Report</i>   | No longer needed                      | EPA's proposed fate and transport modeling approach will provide the needed evaluation on monitored natural recovery (MNR). We propose that model be used to identify any further MNR data gaps and evaluations once it is up and running. |                                 |
| <b>Tech Memos</b>   |                                       |  |                                 |
| <b>Revised TRV Selection TM</b>   | 10/23/2004                            | Submitted; EPA comments received 3/18/2005. On 6/10/2005, EPA directed the LWG to submit the final TRV Selection TM with the PRE.  |                                 |
| <b>Second Revision Preliminary Risk Evaluation Approach TM</b>  | 1/7/2005                              | Submitted; EPA comments received 3/4/2005. On 6/10/2005, EPA directed the LWG to submit the final PRE approach TM with the PRE.  |                                 |

Table 1. Status of LWG Deliverables - Portland Harbor RI/FS

| <b>Deliverable<sup>1</sup></b>  | <b>Submittal Deadline<sup>2</sup></b> | <b>Status/ Comments</b>   | <b>EPA Comments Target Date</b> |
|---|---------------------------------------|---|---------------------------------|
| <b>Comprehensive ERA Approach TM</b>  | 6/27/2004                             | Submitted; EPA comments received 10/1/2004  |                                 |
| <b>Revised Comprehensive ERA Approach TM</b>  | TBD                                   | In a 1/11/2006 meeting with EPA, the LWG proposed deleting this deliverable. The LWG has not heard back from EPA on this proposal.    |                                 |
| Process for Derivation of PRGs TM   | 1/20/2005                             | Submitted; EPA comments received 6/30/2006; a revised tech memo is not required.  | 3/21/2005                       |
| <i>Response to EPA Comments on Process for Derivation of PRGs TM</i>                          | 9/1/2006                              | Submitted 9/1/2006  |                                 |
| <i>Draft Approach to Determining Background for the Portland Harbor Superfund Site</i>        | 3/3/2006                              | Submitted 3/3/2006; EPA comments received 6/5/2006; revised tech memo required.   | 5/2/2006                        |
| <i>Revised Approach to Determining Background for the Portland Harbor Superfund Site</i>      | 7/20/2006                             | LWG response to EPA comments was submitted on 7/14/2006. Further discussion with EPA is required before the tech memo can be revised. |                                 |
| <i>Process for Delineating the Extent of Contamination Upstream and Downstream of the ISA</i> |                                       | The approach for Delineating the Extent of Contamination Upstream and Downstream of the ISA will be provided in the Draft RI Report   |                                 |

Table 1. Status of LWG Deliverables - Portland Harbor RI/FS

| <b>Deliverable<sup>1</sup></b>   | <b>Submittal Deadline<sup>2</sup></b> | <b>Status/ Comments</b>  | <b>EPA Comments Target Date</b>        |
|--|---------------------------------------|--|--|
| <i>COPC Selection Interim Deliverable</i>  | ~1/23/2006                            | In a 1/11/2006 meeting with EPA, the LWG proposed deleting this deliverable. The LWG has not heard back from EPA on this proposal. |  |
| <b>Ecological Risk Assessment</b>  |                                       |  |  |
| <b>Ecological Preliminary Risk Evaluation (PRE)</b>  | 9/9/2005                              | Submitted 9/9/2005; EPA comments received 4/28/2006, a revised PRE is not required   | 11/8/2005                              |
| Bioassay Data Report   | 4/15/2005                             | Submitted 4/8/2005   | 6/7/2005; EPA comments not anticipated |
| <i>Round 2 Benthic Assessment Interpretation Report</i>  | 3/17/2006                             | Submitted 3/17/2006; EPA comments received 7/6/2006  | 5/16/2006                              |
| <i>Food Web Modeling Report: Evaluating Trophic Trace and the Arnot and Gobas Models for Application to the Portland Harbor Superfund Site</i>                             | 11/4/2005                             | Submitted 11/4/2005; EPA comments received 3/10/2006   | 1/3/2006                               |
| <i>Response to EPA comments on Food Web Modeling Report: Evaluating Trophic Trace and the Arnot and Gobas Models for Application to the Portland Harbor Superfund Site</i> | 4/21/2006                             | Submitted 4/21/2006  |  |

Table 1. Status of LWG Deliverables - Portland Harbor RI/FS

| <b>Deliverable<sup>1</sup></b>                             | <b>Submittal Deadline<sup>2</sup></b>                  | <b>Status/ Comments</b>  | <b>EPA Comments Target Date</b>   |
|--|--|--|---|
| <i>Revised Ecological Water Screening Levels</i>           | 5/26/2006  | Submitted 5/25/2006; directive EPA comments received 9/15/2006, and a correction to the xylene AWQC on 9/27/06. Additional revisions were submitted on 10/13/2006. | 7/9/2006; delay in receipt of EPA comments or approval of this submittal will impact the project schedule |
| <b>Feasibility Study</b>                                   |  |  |   |
| <i>2003 Sediment Stake Results Report</i>                  | 4/16/2004  | Submitted  | EPA comments not anticipated  |
| Draft Disposal Site Inventory Preliminary Screening Report | 7/12/2004  | Submitted  | 9/10/2004; project schedule not yet impacted by lack of comments on this submittal                        |
| Facility Siting Re-Screen Report                           | TBD, Work Plan submittal deadline is 3/14/2005         | In a 2/8/2006 meeting, EPA stated that it agreed to delete this deliverable.   |   |
| Literature Survey of Treatability Studies                  | October 2007   | Submitted 10/31/2007   | -   |
| <b>General Field/Data/RI Reporting</b>                     |  |  |   |
| <i>Validated Analytical Results</i>                        | 90 days following completion of each sampling activity |  |   |
| <i>Round 2 Surface Sediment Field Sampling Report</i>      | 1/4/2005   | Submitted  | 3/7/2005; EPA comments not anticipated  |

Table 1. Status of LWG Deliverables - Portland Harbor RI/FS

| <b>Deliverable<sup>1</sup></b>  | <b>Submittal Deadline<sup>2</sup></b> | <b>Status/ Comments</b> | <b>EPA Comments Target Date</b>          |
|---|---------------------------------------|-------------------------|--|
| <i>Round 2A Subsurface Sediment Field Sampling Report</i>                                       | 1/10/2005                             | Submitted               | 3/11/2005; EPA comments not anticipated  |
| <i>Round 2A Event 1 Surface Water Field Sampling Report</i>                                     | 1/31/2005                             | Submitted               | 4/1/2005; EPA comments not anticipated   |
| <i>Round 2A Winter 2005 Surface Water Field Sampling Report</i>                                 | 5/16/2005                             | Submitted               | 7/15/2005; EPA comments not anticipated  |
| <i>Round 2A Summer 2005 Surface Water Field Sampling Report</i>                                 | 9/19/2005                             | Submitted               | 11/19/2005; EPA comments not anticipated |
| <i>Round 2 Subyearling Chinook Tissue Collection Field Sampling Report</i>                      | 7/18/2005                             | Submitted 7/18/2005     | 9/16/2005; EPA comments not anticipated  |
| <i>Round 2 Multiplate Tissue Field Sampling Report</i>  | 11/23/2005                            | Submitted 11/23/2005    | 1/13/2006; EPA comments not anticipated  |
| <i>Draft Round 2 Sediment Site Characterization Summary Report</i>                              | 7/15/2005                             | Submitted 7/15/2005     | 9/13/2005; EPA comments not anticipated  |
| <i>Draft Round 2 Surface Water Data Report for November 2004 and March 2005 Sampling Events</i> | 10/17/2005                            | Submitted 10/17/2005    | 12/16/2005; EPA comments not anticipated |
| <i>Round 2B Subsurface Sediment Field Sampling Report</i>                                       | 12/28/2005                            | Submitted 12/29/2005    | 2/24/2006; EPA comments not anticipated  |

Table 1. Status of LWG Deliverables - Portland Harbor RI/FS

| <b>Deliverable<sup>1</sup></b>  | <b>Submittal Deadline<sup>2</sup></b> | <b>Status/ Comments</b> | <b>EPA Comments Target Date</b>         |
|---|---------------------------------------|-------------------------|---|
| <i>Round 2 Transition Zone Water Field Sampling Report</i>                                    | 1/31/2006                             | Submitted 1/31/2006     | 4/3/2006; EPA comments not anticipated  |
| <i>Round 2 Benthic Invertebrate Field Sampling Report</i>                                     | 2/20/2006                             | Submitted 2/20/2006     | 4/21/2006; EPA comments not anticipated |
| Round 2 Surface Water Site Characterization Summary Report                                    | 4/24/2006                             | Submitted 4/24/2006     | 6/23/2006                               |
| <i>Round 2 Juvenile Chinook Tissue Data Report</i>  | 3/31/2006                             | Submitted 3/31/2006     | 5/29/2006; EPA comments not anticipated |
| <i>Round 2A Surface Sediment PCB Congeners Data Report</i>                                    | 4/10/2006                             | Submitted 4/10/2006     | 6/9/2006; EPA comments not anticipated  |
| <i>Round 2A Archived Subsurface Sediment Data Report</i>                                      | 5/5/2006                              | Submitted 5/8/2006      | 7/7/2006; EPA comments not anticipated  |
| <i>Round 2B Subsurface Sediment Data Report</i>   | 5/22/2006                             | Submitted 5/22/2006     | 7/21/2006; EPA comments not anticipated |
| <i>Round 2 Multiplate Invertebrate Tissue Data Report</i>                                     | 6/12/2006                             | Submitted 6/12/2006     | 8/11/2006; EPA comments not anticipated |
| <i>Round 2 Hydrodynamic/Sediment Transport Modeling Data Collection Field Sampling Report</i> | 6/19/2006                             | Submitted 6/19/2007     | 10/2/2006; EPA comments not anticipated |



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| <b>Deliverable<sup>1</sup></b>   | <b>Submittal Deadline<sup>2</sup></b> | <b>Status/ Comments</b> | <b>EPA Comments Target Date</b>                                 |
|--|---------------------------------------|-------------------------|---|
| <i>Round 2 Benthic Tissue and Sediment Data Report</i>   | 9/6/2006                              | Submitted 9/6/2006      | 11/6/2006; EPA comments not anticipated                         |
| <i>Round 2 Transition Zone Water Site Characterization Summary Report</i>                          | 8/7/2006                              | Submitted 8/7/2006      | 11/6/2006   |
| Comprehensive Round 2 Site Characterization Summary and Data Gaps Analysis Report                  | 2/21/2007                             | Submitted 2/21/2007     | EPA written comments on full report anticipated by January 2008 |
| <b>ROUND 3</b>   |                                       |                         |   |
| <b>SURFACE WATER</b>   |                                       |                         |   |
| <i>Round 3 January 2006 High-flow Event Surface Water Field Sampling Report</i>                    | 3/22/2006                             | Submitted 3/27/2006     | 5/22/2006; EPA comments not anticipated                         |
| <i>Round 3 January 2006 Surface Water Sampling Event Data Report</i>                               | 10/23/2006                            | Submitted 10/23/2006    | 12/22/2006; EPA comments not anticipated                        |
| <i>Round 3A September 2006 Low-flow Event Surface Water Sampling Field Sampling Report</i>         | 12/8/2006                             | Submitted 12/8/2006     | 2/6/2007; EPA comments not anticipated                          |
| <i>Round 3A November 2006 Stormwater Runoff Event Surface Water Sampling Field Sampling Report</i> | 1/15/2007                             | Submitted 1/15/2007     | 3/16/2007; EPA comments not anticipated                         |

Table 1. Status of LWG Deliverables - Portland Harbor RI/FS

| <b>Deliverable<sup>1</sup></b>  | <b>Submittal Deadline<sup>2</sup></b> | <b>Status/ Comments</b>   | <b>EPA Comments Target Date</b>  |
|---|---------------------------------------|---|--|
| <i>Round 3A 2007 High Flow Surface Water Field Sampling Report</i>  | 5/9/2007                              | Submitted 04/30/07  | TBD; EPA comments not anticipated  |
| <i>Round 3A Surface Water Data Report for September 2006 Low-flow Event and November 2006 Stormwater Runoff Event</i> | 5/21/2007                             | Submitted 5/21/2007   | TBD; EPA comments not anticipated  |
| <i>Round 3A 2007 High Flow Surface Water Data Report</i>  | October 2007                          | Submitted 10/15/2007  | TBD; EPA comments not anticipated  |
| <b>TZW</b>  |                                       |   |  |
| <i>Gunderson TZW Field Sampling Plan</i>  | August 2007                           | Submitted 08/16/07; revised Tech Approach memo submitted 10/10/2007 | EPA comments received on 9/20/2007; EPA approval on revised FSP received on 10/11/07 |
| <i>Round 3 Gunderson TZW Field Sampling Report</i>  | December 2007                         | TBD   | TBD  |
| <b>BIOTA</b>  |                                       |   |  |
| <i>Revised FSP: Round 3 Sampling for Pre-Breeding White Sturgeon (Acipenser transmontanus) Tissue</i>                 | 12/22/2006                            | Submitted 12/22/2006; approved by EPA with conditions on 2/15/2007  | 1/22/2007  |

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| <b>Deliverable<sup>1</sup></b>  | <b>Submittal Deadline<sup>2</sup></b> | <b>Status/ Comments</b>  | <b>EPA Comments Target Date</b>  |
|---|---------------------------------------|--|--|
| <i>Draft Round 3 Lamprey Ammocoete Toxicity Testing FSP</i>                                   | 9/29/2006                             | Submitted 9/7/2007; conditionally approved by EPA on 10/11/2006, approval limited to procedures for collecting, transporting and holding ammocoetes only | 10/13/2006   |
| <i>Draft Round 3 Lamprey Ammocoete Toxicity Testing QAPP</i>                                  | 10/13/2006                            | Submitted 10/13/2006; approved by EPA with comments on 10/31/2006  | ASAP   |
| <i>Round 3 Lamprey Ammocoete Tissue Collection Field Sampling Report</i>                      | 12/15/2006                            | Submitted 12/15/2006   | 2/16/2007; EPA comments not anticipated  |
| <i>Round 3 Sturgeon Field Sampling Report</i>   | 5/7/2007                              | Submitted 05/07/07   | TBD; EPA comments not anticipated  |
| <i>Round 3 Lamprey Ammocoete Phase 1 Toxicity Testing Data Report (and comment responses)</i> | 4/6/07                                | Submitted 04/06/07   | 6/8/2007   |
| <i>Round 3 Lamprey Toxicity Testing FSP Addendum</i>  |                                       | Submitted 07/09/07; response to comments submitted 08/10/07; revised FSP and QAPP addenda submitted 9/12/2007  | EPA comments received 07/20/07; EPA approval received 08/17/07; EPA comments on revised FSP/QAPP addenda not anticipated |
| <i>Round 3 Biota Sampling FSP</i>   | 8/10/2007                             | Submitted 08/10/07; revised FSP submitted 10/26/2007   | EPA comments received 8/17/07  |

Table 1. Status of LWG Deliverables - Portland Harbor RI/FS

| <b>Deliverable<sup>1</sup></b>                                | <b>Submittal Deadline<sup>2</sup></b> | <b>Status/ Comments</b>  | <b>EPA Comments Target Date</b>   |
|---|---------------------------------------|--|-----------------------------------|
| <i>Round 3B QAPP Addendum 9 for Biota Sampling</i>            | October 2007                          | <u>Submitted 10/31/07</u>  |                                   |
| <i>Round 3 Lamprey Ammocoete Tissue Testing Data Report</i>   | August 2007                           | Submitted 08/24/07   | TBD; EPA comments not anticipated |
| <i>Juvenile Lamprey Tissue Data Interpretation Memorandum</i> | September 2007                        | Submitted 09/12/07   | TBD                               |
| <i>Round 2 Mussels Data Report</i>                            | <u>October 2007</u>                   | Submitted 10/1/2007  |                                   |
| <i>Round 3 Phase 2 Lamprey Toxicity Testing Report</i>        | <u>April 2008</u>                     | <u>Data report within 120 days of completion of each phase of testing per Phase 1 FSP.</u> | -                                 |
| <i>Round 3B Biota Field Sampling Report</i>                   | <u>February 2008</u>                  | <u>TBD</u>   | -                                 |
| <i>Round 3 Sturgeon Data Report</i>                           | <u>2/13/2008</u>                      | <u>90 days after tissue sampling and analyses per FSP. Final data rec'd 11/13/07</u>       |                                   |
| <b>STORMWATER</b>   |                                       |  |                                   |
| <i>Round 3A Field Sampling Plan: Stormwater Sampling</i>      | 2/7/2007                              | Submitted 2/7/2007; approved by EPA on 2/15/2007 with comments.                            |                                   |
| <i>Round 2 QAPP Addendum 8; Round 3A Stormwater Sampling</i>  | 2/7/2007                              | Submitted 2/7/2007; approved by EPA on 2/15/2007 with comments.                            |                                   |

Table 1. Status of LWG Deliverables - Portland Harbor RI/FS

| <b>Deliverable<sup>1</sup></b>  | <b>Submittal Deadline<sup>2</sup></b> | <b>Status/ Comments</b>                               | <b>EPA Comments Target Date</b>   |
|---|---------------------------------------|---|-----------------------------------|
| <i><u>Round 3A Upland Stormwater Field Sampling Report</u></i>                                      | <u>December 2007</u>                  | <u>Projected for submittal in early December 2007</u> | <u>1/31/2008</u>                  |
| <i>Round 3A Stormwater FSP Addendum</i>   | <u>November 2007</u>                  | <u>Submitted 11/2/07</u>                              | <u>Approved by EPA 11/6/07</u>    |
| <i><u>Stormwater Site Characterization Summary Report</u></i>                                       | <u>3/5/2008</u>                       | -   | <u>5/5/2008</u>                   |
| <i>Stormwater Loading Estimate Methods Report</i>   | None                                  | -   | <u>TBD</u>                        |
| <b><i>SEDIMENT</i></b>  |                                       |   |                                   |
| <i>Round 3A Sediment Upstream / Downstream Field Sampling Report</i>                                | 4/9/2007                              | Submitted 04/09/07                                    | TBD; EPA comments not anticipated |
| <i>Round 3B Field Sampling Plan: Sediment Sampling and Benthic Toxicity Testing</i>                 |                                       | Submitted 5/4/2007                                    | TBD;                              |
| <i>Upriver and Multnomah Channel Sediment Evaluation and Field Sampling Plan Technical Approach</i> |                                       | Submitted 5/25/2007                                   | TBD;                              |
| <i>Draft Round 3B Surface and Core Sediment FSP Preliminary Technical Memorandum</i>                |                                       | Submitted 5/25/2007                                   | TBD;                              |

Table 1. Status of LWG Deliverables - Portland Harbor RI/FS

| <b>Deliverable<sup>1</sup></b>   | <b>Submittal Deadline<sup>2</sup></b> | <b>Status/ Comments</b>   | <b>EPA Comments Target Date</b>     |
|--|---------------------------------------|---|-------------------------------------|
| <i>Draft Round 3B Erosion Core Sediment FSP Technical Memorandum</i>             | August 2007                           | Submitted 8/29/07   | TBD                                 |
| <i>Round 3A Sediment Upstream / Downstream Data Report</i>                       | 8/6/2007                              | Submitted 7/30/07   | TBD; EPA comments not anticipated   |
| <i>Round 3A Sediment Radioisotope Data Report</i>                                | November 2007                         | <u>Submitted 11/16/07</u>   | -                                   |
| <i>Round 3B Comprehensive Sediment and Bioassay Testings Field Sampling Plan</i> | November 2007                         | <u>Submitted 11/5/07; submitted revised maps, tables, App. A-11 (Hist. Rd) 11/16/07</u> | <u>11/9/07 conditional approval</u> |
| <i>Round 3B QAPP Addendum 10 for Sediment Sampling</i>                           | November 2007                         | <u>To be submitted in early December</u>  | -                                   |
| <b>SEDIMENT TRAP (IN-RIVER)</b>  |                                       |   |                                     |
| <i>Round 3A Sediment Trap Sampling Quarter 1 Field Report</i>                    | 4/1/2007                              | Submitted 04/16/07  | TBD; EPA comments not anticipated   |
| <i>Round 3A Sediment Trap Sampling Quarter 2 Field Report</i>                    | August 2007                           | Submitted 08/07/07  | TBD; EPA comments not anticipated   |
| <i>Round 3A Sediment Trap Sampling Quarter 3 Field Report</i>                    | October 2007                          | Submitted 10/25/2007  |                                     |

Table 1. Status of LWG Deliverables - Portland Harbor RI/FS

| <b>Deliverable<sup>1</sup></b>   | <b>Submittal Deadline<sup>2</sup></b> | <b>Status/ Comments</b>   | <b>EPA Comments Target Date</b>  |
|--|---------------------------------------|---|--|
| <i>Round 3A Sediment Trap Sampling Quarter 4 Field Report</i>                                    | <u>January 2008</u>                   | -   | -  |
| <i>Sediment Trap Data Report</i>   | <u>5/7/2008</u>                       | -   | <u>6/30/2008</u>   |
| <b>FATE &amp; TRANSPORT</b>  |                                       |   |  |
| <i>Draft Chemical Fate &amp; Transport Model Development and Data Gaps Identification Report</i> | July 2007                             | Submitted 7/20/2007; response to comments being prepared by the LWG | EPA comments received 10/15/07   |
| <i>F&amp;T Surface Sediment FSP – Addendum to 3B Sediment FSP</i>                                | <u>December 2007</u>                  | <u>to be submitted in early December 2007</u>                       | -  |
| <b>Cultural Resources</b>  |                                       |   |  |
| Draft Cultural Resource Survey Report  | 12/16/2005                            | Submitted 12/16/2005  | 2/14/2006; EPA comments not time-critical at this point in the project |

Notes:

<sup>1</sup> - **Bolded Deliverables** are primary deliverables per Section XIX., Paragraph 4 of AOC (EPA 2001a).  
 Unbolded Deliverables are secondary deliverables per Section XIX, Paragraph 5 of AOC.  
*Italicized Deliverables* do not have stipulated penalty amounts.

<sup>2</sup> - Listed Submittal Deadlines are for draft documents. Unless otherwise specified, all final documents are due to EPA 30 days following receipt of comments from EPA.

**Only deliverables due within the next four months are shown.**

Deliverable completed and approved by EPA.

Deliverable submitted to EPA and its partners.

Underlining indicates text change from last progress report.